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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHERMAN, STEPHEN G	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,186	RUTLEDGE ET AL.	
	Examiner	Art Unit	
	Stephen G. Sherman	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 October 2007 has been entered. Claims 1-24 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 already recites

the limitation of "calibrating said input parameter signal when a hands-off condition is detected".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-7 and 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casebolt et al. (US 6,816,150) in view of Engle et al. (US 5,541,622).

Regarding claim 1, Casebolt et al. disclose a controller for controlling a cursor, comprising:

an identifying module (Column 13, lines 5-13) for identifying at least one of a first period when a cursor is in motion (Column 14, lines 38-41 state that in the Active state the user is moving the mouse, which means that the cursor is in motion.) and a second period when said cursor is not in motion (Column 14, lines 56-67 explain that in the IDLE state the user has a hand on the mouse, but the user is not moving the mouse.); and

a calibrating module for sampling an input parameter signal to detect a hands-off condition using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period (Column 14, lines 38-55 explain that during the Active state, i.e. when the cursor is in motion, the firmware samples the input signal, and after a predetermined period of time in which no motion occurs, the device will enter either an IDLE state if a user is touching the device or a SHUTDOWN state if a user is not touching the device. If the system enters the IDLE state, Column 14, line 56 to column 15, line 13 explains that the signal is sampled at a slower rate than in the ACTIVE state. In the case of both state, ACTIVE and IDLE, a hand-off condition is sensed using two different testing times to determine whether the SHUTDOWN state should be entered.).

Casebolt et al. fail to teach of calibrating said input parameter signal when a hands-off condition is detected.

Engle et al. disclose of a controller for controlling a cursor comprising a calibrating module for calibrating an input parameter signal when a hands-off condition is detected (Column 6, line 64 to column 7, line 2 and column 3, line 66 to column 4, line

10 explain that when a user is not detected, that the signals can be "zeroed" such that cursor drift will not occur.).

Therefore, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the zeroing method taught by Engle et al. in the no touch detection condition taught by Casebolt et al. in order to prevent drifting of the cursor when a user is not touching the device.

Regarding claim 2, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said identifying module inputs said input parameter signal from a force sensor (Column 3, line 64 to column 4, line 10 explain that the force sensing elements are measured to acquire the input signal.), and wherein said calibrating module outputs a calibrated input parameter signal to an output module (Column 6, line 64 to column 7, line 2 explain that the processor calibrates the received force signal, where the calibrated signal is what will be output to define cursor movement.).

Regarding claim 3, Casebolt et al. and Engle et al. disclose the controller according to claim 2.

Engle et al. also disclose wherein said input parameter signal comprises an input parameter signal detected during a period when a mouse is untouched by a user (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used,

that a signal level is detected and bias force information is generated from the measured signals. See also column 6, line 64 to column 7, line 2.).

Regarding claim 4, Casebolt et al. and Engle et al. disclose the controller according to claim 2.

Engle et al. also disclose wherein said output module outputs a current movement signal based on said calibrated input parameter signal (Column 6, line 64 to column 7, line 2 explain that the processor calibrates the received force signal, where the calibrated signal is what will be output to define cursor movement.), and a transfer function for generating said cursor movement signal comprises a dead band within which said cursor movement signal causes no cursor movement for a non-zero input parameter signal (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used, that a signal level is detected, which means that the input signal is non-zero , however, no cursor movement will occur.).

Regarding claim 5, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said calibrating module calibrates said input parameter signal when a device for controlling said cursor is in a hands-off condition (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used, that a signal level is detected and bias force information is generated from the measured signals. See also column 6, line 64 to column 7, line 2.).

Regarding claim 6, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said first and second hands-off tests are used by said calibrating module to determine a hands-off condition in which a device for controlling said cursor is not being touched by a user (As explained in the rejection of claim 1, the second test is used during the second period which is when the cursor is not in motion, which is when a user is not touching the device.), and

wherein said calibrating module calibrates a significant input parameter signal by identifying an input parameter signal detected during said hands-off condition as having a zero value, relative to which said significant input parameter signal is measured (As explained in the rejection of claim 1, when a joystick is not being used, i.e. a hand is not touching the joystick, a signal level is measured and set to a zero level.).

Regarding claim 7, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said input parameter signal is calibrated to inhibit a cursor drift (Abstract).

Regarding claim 10, this claim is rejected under the same rationale as claims 1 and 2.

Regarding claim 11, Casebolt et al. and Engle et al. disclose the cursor control system according to claim 10.

Engle et al. disclose the cursor control system further comprising:

an output module which receives a calibrated input parameter signal from said calibrating module and outputs a cursor movement signal based on said calibrated input parameter signal (Column 1, lines 14-22, column 6, line 64 to column 7, line 2 and column 7, lines 36-38 explain that the calibrated signal is provided to a display as pointing data for the input device, meaning that the signal must be output to provide the coordinate information and thus there inherently will be an output module able to output the data.).

Regarding claim 12, Casebolt et al. and Engle et al. disclose the cursor control system according to claim 10.

Engle et al. also disclose wherein said force sensor comprises a pointing device which is integrally-formed in a keyboard assembly (Figures 5A and 5B).

Regarding claim 13, this claim is rejected under the same rationale as claim 5.

Regarding claim 14, this claim is rejected under the same rationale as claim 9.

Regarding claim 15, this claim is rejected under the same rationale as claim 9.

Regarding claim 16, this claim is rejected under the same rationale as claim 12.

Regarding claim 17, please refer to the rejection of claim 16, and furthermore Engle et al. also disclose a display device for displaying a cursor controlled by said cursor control system (Column 1, lines 14-22).

Regarding claim 18, this claim is rejected under the same rationale as claim 1.

Regarding claim 19, this claim is rejected under the same rationale as claims 1 and 6.

Regarding claim 20, this claim is rejected under the same rationale as claim 1.

Regarding claim 21, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said controller is included in a pointing stick system, and said input parameter signal measures a force applied to a point stick in said pointing system (Please refer to the rejection of claim 1, and Figures 5A and 5B.).

Regarding claim 22, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Casebolt et al. also disclose wherein said calibrating said input parameter signal comprises sampling said input parameter signal using a first sampling time during said

first period and a second sampling time different than said first sampling time during said second period (As explained in the rejection of claim 1, different sampling times are used during the ACTIVE and IDLE states.).

7. Claims 8-9 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casebolt et al. (US 6,816,150) in view of Engle et al. (US 5,541,622) and further in view of AAPA (Page 1, line 13 to page 3, line 13 of the specification.).

Regarding claim 8, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Casebolt et al. and Engle et al. fail to teach wherein said second hands-off test is less stringent than said first hands-off test.

AAPA discloses of two different hands-off tests, one of which being less stringent that the other (Page 2, line 20 to page 3, line 8 of the specification states that when a cursor is in motion a more stringent test is best to be used and that when a cursor is not is motion that a less stringent test is best to be used.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by the combination of Casebolt et al. and Engle et al. have the testing times taught by the tests of the AAPA in order to allow for the correct cursor position data to be detected.

Regarding claim 9, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Casebolt et al. and Engle et al. fail to teach wherein said second hands-off test is less stringent than said first hands-off test.

AAPA discloses of two different hands-off tests, one of which being less stringent that the other (Page 2, line 20 to page 3, line 8 of the specification states that when a cursor is in motion a more stringent test is best to be used and that when a cursor is not is motion that a less stringent test is best to be used.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by the combination of Casebolt et al. and Engle et al. have the testing times taught by the tests of the AAPA in order to allow for the correct cursor position data to be detected.

Casebolt et al., Engle et al. and AAPA fail to explicitly teach wherein said first hands-off test comprises a duration of at least about 5 seconds, and said second hands-off test comprises no more than about 0.53 seconds, however, AAPA does disclose of the tests being 2.88 seconds and .53 seconds.

Therefore it would have been an obvious design choice to "one of ordinary skill" in the art at the time the invention was made to make the test lengths taught by the combination of Casebolt et al., Engle et al. and AAPA 5 seconds and .53 seconds in order to allow for the proper detection of the signals to take place.

Regarding claim 23, Casebolt et al. and Engle et al. disclose the controller according to claim 1.

Casebolt et al. and Engle et al. fails to teach wherein the first hands-off test comprises a duration that is longer than a duration of said second hands-off test.

AAPA discloses of two different hands-off tests, wherein one test comprises a duration that is longer than a duration of a second test (Page 2, line 20 to page 3, line 8 of the specification states that when using two different test, one test the testing time is longer than in the other.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by the combination of Casebolt et al. and Engle et al. have different testing times taught by the tests of the AAPA in order to allow for power savings to be realized, since when the joystick is not being touched the cursor is not to be used and therefore the input signal would not need to be updated as often.

Regarding claim 24, this claim is rejected under the same rationale as claim 23.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

19 November 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER